

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 14:54:53 ON 14 MAY 2004

=> fil .bec,fsta

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILES 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS,  
ESBIOBASE, BIOTECHNO, WPIDS, FSTA' ENTERED AT 14:55:27 ON 14 MAY 2004  
ALL COPYRIGHTS AND RESTRICTIONS APPLY. SEE HELP USAGETERMS FOR DETAILS.

12 FILES IN THE FILE LIST

=> s glucoamylase#

FILE 'MEDLINE'

L1 1003 GLUCOAMYLASE#

FILE 'SCISEARCH'

L2 2105 GLUCOAMYLASE#

FILE 'LIFESCI'

L3 931 GLUCOAMYLASE#

FILE 'BIOTECHDS'

L4 2079 GLUCOAMYLASE#

FILE 'BIOSIS'

L5 2292 GLUCOAMYLASE#

FILE 'EMBASE'

L6 1039 GLUCOAMYLASE#

FILE 'HCAPLUS'

L7 5368 GLUCOAMYLASE#

FILE 'NTIS'

L8 29 GLUCOAMYLASE#

FILE 'ESBIOBASE'

L9 554 GLUCOAMYLASE#

FILE 'BIOTECHNO'

L10 709 GLUCOAMYLASE#

FILE 'WPIDS'

L11 917 GLUCOAMYLASE#

FILE 'FSTA'

L12 1393 GLUCOAMYLASE#

TOTAL FOR ALL FILES

L13 18419 GLUCOAMYLASE#

=> s l13(5a)(talaromyces or emersonii)

FILE 'MEDLINE'

76 TALAROMYCES

171 EMERSONII

L14 1 L1 (5A) (TALAROMYCES OR EMERSONII)

FILE 'SCISEARCH'

329 TALAROMYCES

298 EMERSONII

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L15          2 L2 (5A) (TALAROMYCES OR EMERSONII)

FILE 'LIFESCI'
    152 TALAROMYCES
    124 EMERSONII
L16          1 L3 (5A) (TALAROMYCES OR EMERSONII)

FILE 'BIOTECHDS'
    171 TALAROMYCES
    86 EMERSONII
L17          5 L4 (5A) (TALAROMYCES OR EMERSONII)

FILE 'BIOSIS'
    467 TALAROMYCES
    441 EMERSONII
L18          4 L5 (5A) (TALAROMYCES OR EMERSONII)

FILE 'EMBASE'
    103 TALAROMYCES
    156 EMERSONII
L19          1 L6 (5A) (TALAROMYCES OR EMERSONII)

FILE 'HCAPLUS'
    397 TALAROMYCES
    437 EMERSONII
L20          7 L7 (5A) (TALAROMYCES OR EMERSONII)

FILE 'NTIS'
    0 TALAROMYCES
    1 EMERSONII
L21          0 L8 (5A) (TALAROMYCES OR EMERSONII)

FILE 'ESBIOBASE'
    77 TALAROMYCES
    39 EMERSONII
L22          1 L9 (5A) (TALAROMYCES OR EMERSONII)

FILE 'BIOTECHNO'
    91 TALAROMYCES
    79 EMERSONII
L23          2 L10 (5A) (TALAROMYCES OR EMERSONII)

FILE 'WPIDS'
    87 TALAROMYCES
    12 EMERSONII
L24          4 L11 (5A) (TALAROMYCES OR EMERSONII)

FILE 'FSTA'
    59 TALAROMYCES
    18 EMERSONII
L25          0 L12 (5A) (TALAROMYCES OR EMERSONII)

TOTAL FOR ALL FILES
L26          28 L13 (5A) (TALAROMYCES OR EMERSONII)

=> s l13(5a)thermostab?
FILE 'MEDLINE'
    6051 THERMOSTAB?
L27          23 L1 (5A) THERMOSTAB?

FILE 'SCISEARCH'
    8202 THERMOSTAB?
L28          41 L2 (5A) THERMOSTAB?

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FILE 'LIFESCI'
    3675 THERMOSTAB?
L29      28 L3 (5A) THERMOSTAB?

FILE 'BIOTECHDS'
    6409 THERMOSTAB?
L30      100 L4 (5A) THERMOSTAB?

FILE 'BIOSIS'
    9840 THERMOSTAB?
L31      39 L5 (5A) THERMOSTAB?

FILE 'EMBASE'
    10819 THERMOSTAB?
L32      22 L6 (5A) THERMOSTAB?

FILE 'HCAPLUS'
    18306 THERMOSTAB?
L33      92 L7 (5A) THERMOSTAB?

FILE 'NTIS'
    185 THERMOSTAB?
L34      0 L8 (5A) THERMOSTAB?

FILE 'ESBIOBASE'
    3116 THERMOSTAB?
L35      19 L9 (5A) THERMOSTAB?

FILE 'BIOTECHNO'
    6565 THERMOSTAB?
L36      20 L10 (5A) THERMOSTAB?

FILE 'WPIDS'
    4817 THERMOSTAB?
L37      7 L11 (5A) THERMOSTAB?

FILE 'FSTA'
    1824 THERMOSTAB?
L38      32 L12 (5A) THERMOSTAB?

TOTAL FOR ALL FILES
L39      423 L13 (5A) THERMOSTAB?

=> s l13(5a)(increas? or high?)(5a)activit?
FILE 'MEDLINE'
    1858604 INCREAS?
    2075406 HIGH?
    1347764 ACTIVIT?
L40      35 L1 (5A) (INCREAS? OR HIGH?) (5A) ACTIVIT?

FILE 'SCISEARCH'
    1848724 INCREAS?
    2741253 HIGH?
    1166049 ACTIVIT?
L41      44 L2 (5A) (INCREAS? OR HIGH?) (5A) ACTIVIT?

FILE 'LIFESCI'
    473699 INCREAS?
    596158 HIGH?
    427464 ACTIVIT?
L42      43 L3 (5A) (INCREAS? OR HIGH?) (5A) ACTIVIT?

FILE 'BIOTECHDS'
    59160 INCREAS?

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          96657 HIGH?
          93132 ACTIVIT?
L43      73 L4 (5A) (INCREAS? OR HIGH?) (5A)ACTIVIT?

FILE 'BIOSIS'
          2012843 INCREAS?
          2342894 HIGH?
          1530617 ACTIVIT?
L44      72 L5 (5A) (INCREAS? OR HIGH?) (5A)ACTIVIT?

FILE 'EMBASE'
          1747812 INCREAS?
          1980114 HIGH?
          1299585 ACTIVIT?
L45      49 L6 (5A) (INCREAS? OR HIGH?) (5A)ACTIVIT?

FILE 'HCAPLUS'
          3643719 INCREAS?
          5013076 HIGH?
          2089142 ACTIVIT?
L46      158 L7 (5A) (INCREAS? OR HIGH?) (5A)ACTIVIT?

FILE 'NTIS'
          179869 INCREAS?
          442127 HIGH?
          137623 ACTIVIT?
L47      0 L8 (5A) (INCREAS? OR HIGH?) (5A)ACTIVIT?

FILE 'ESBIOBASE'
          639345 INCREAS?
          756758 HIGH?
          433265 ACTIVIT?
L48      16 L9 (5A) (INCREAS? OR HIGH?) (5A)ACTIVIT?

FILE 'BIOTECHNO'
          383544 INCREAS?
          516514 HIGH?
          386785 ACTIVIT?
L49      35 L10 (5A) (INCREAS? OR HIGH?) (5A)ACTIVIT?

FILE 'WPIDS'
          1170344 INCREAS?
          2150738 HIGH?
          280409 ACTIVIT?
L50      25 L11 (5A) (INCREAS? OR HIGH?) (5A)ACTIVIT?

FILE 'FSTA'
          116809 INCREAS?
          160058 HIGH?
          55391 ACTIVIT?
L51      53 L12 (5A) (INCREAS? OR HIGH?) (5A)ACTIVIT?

TOTAL FOR ALL FILES
L52      603 L13 (5A) (INCREAS? OR HIGH?) (5A) ACTIVIT?

=> s l52 and specific activity
FILE 'MEDLINE'
          872179 SPECIFIC
          1194533 ACTIVITY
          21683 SPECIFIC ACTIVITY
              (SPECIFIC(W)ACTIVITY)
L53      6 L40 AND SPECIFIC ACTIVITY

FILE 'SCISEARCH'

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782439 SPECIFIC  
 1042083 ACTIVITY  
 13370 SPECIFIC ACTIVITY  
 (SPECIFIC(W)ACTIVITY)  
 L54 6 L41 AND SPECIFIC ACTIVITY  
  
 FILE 'LIFESCI'  
 312403 "SPECIFIC"  
 392995 "ACTIVITY"  
 7603 SPECIFIC ACTIVITY  
 ("SPECIFIC" (W) "ACTIVITY")  
 L55 6 L42 AND SPECIFIC ACTIVITY  
  
 FILE 'BIOTECHDS'  
 58963 SPECIFIC  
 88711 ACTIVITY  
 4446 SPECIFIC ACTIVITY  
 (SPECIFIC(W)ACTIVITY)  
 L56 5 L43 AND SPECIFIC ACTIVITY  
  
 FILE 'BIOSIS'  
 896210 SPECIFIC  
 1405931 ACTIVITY  
 28723 SPECIFIC ACTIVITY  
 (SPECIFIC(W)ACTIVITY)  
 L57 8 L44 AND SPECIFIC ACTIVITY  
  
 FILE 'EMBASE'  
 785513 "SPECIFIC"  
 1208124 "ACTIVITY"  
 20673 SPECIFIC ACTIVITY  
 ("SPECIFIC" (W) "ACTIVITY")  
 L58 5 L45 AND SPECIFIC ACTIVITY  
  
 FILE 'HCAPLUS'  
 1192072 SPECIFIC  
 261114 SP  
 1419102 SPECIFIC  
 (SPECIFIC OR SP)  
 1933743 ACTIVITY  
 52369 SPECIFIC ACTIVITY  
 (SPECIFIC(W)ACTIVITY)  
 L59 11 L46 AND SPECIFIC ACTIVITY  
  
 FILE 'NTIS'  
 112118 SPECIFIC  
 58647 ACTIVITY  
 810 SPECIFIC ACTIVITY  
 (SPECIFIC(W)ACTIVITY)  
 L60 0 L47 AND SPECIFIC ACTIVITY  
  
 FILE 'ESBIOBASE'  
 374890 SPECIFIC  
 396999 ACTIVITY  
 6078 SPECIFIC ACTIVITY  
 (SPECIFIC(W)ACTIVITY)  
 L61 3 L48 AND SPECIFIC ACTIVITY  
  
 FILE 'BIOTECHNO'  
 320652 SPECIFIC  
 366432 ACTIVITY  
 8442 SPECIFIC ACTIVITY  
 (SPECIFIC(W)ACTIVITY)  
 L62 5 L49 AND SPECIFIC ACTIVITY

FILE 'WPIDS'  
     410596 SPECIFIC  
     268017 ACTIVITY  
     2036 SPECIFIC ACTIVITY  
         (SPECIFIC(W)ACTIVITY)  
 L63           2 L50 AND SPECIFIC ACTIVITY  
  
 FILE 'FSTA'  
     67356 SPECIFIC  
     49657 ACTIVITY  
     1375 SPECIFIC ACTIVITY  
         (SPECIFIC(W)ACTIVITY)  
 L64           5 L51 AND SPECIFIC ACTIVITY  
  
 TOTAL FOR ALL FILES  
 L65           62 L52 AND SPECIFIC ACTIVITY  
  
 => s (l26 or l39 or l65) not 1999-2004/py  
 FILE 'MEDLINE'  
     2747374 1999-2004/PY  
 L66           17 (L14 OR L27 OR L53) NOT 1999-2004/PY  
  
 FILE 'SCISEARCH'  
     5292281 1999-2004/PY  
 L67           32 (L15 OR L28 OR L54) NOT 1999-2004/PY  
  
 FILE 'LIFESCI'  
     543089 1999-2004/PY  
 L68           26 (L16 OR L29 OR L55) NOT 1999-2004/PY  
  
 FILE 'BIOTECHDS'  
     99472 1999-2004/PY  
 L69           87 (L17 OR L30 OR L56) NOT 1999-2004/PY  
  
 FILE 'BIOSIS'  
     2913076 1999-2004/PY  
 L70           32 (L18 OR L31 OR L57) NOT 1999-2004/PY  
  
 FILE 'EMBASE'  
     2419363 1999-2004/PY  
 L71           20 (L19 OR L32 OR L58) NOT 1999-2004/PY  
  
 FILE 'HCAPLUS'  
     5073756 1999-2004/PY  
 L72           62 (L20 OR L33 OR L59) NOT 1999-2004/PY  
  
 FILE 'NTIS'  
     92925 1999-2004/PY  
 L73           0 (L21 OR L34 OR L60) NOT 1999-2004/PY  
  
 FILE 'ESBIOBASE'  
     1527928 1999-2004/PY  
 L74           11 (L22 OR L35 OR L61) NOT 1999-2004/PY  
  
 FILE 'BIOTECHNO'  
     611346 1999-2004/PY  
 L75           17 (L23 OR L36 OR L62) NOT 1999-2004/PY  
  
 FILE 'WPIDS'  
     4523069 1999-2004/PY  
 L76           6 (L24 OR L37 OR L63) NOT 1999-2004/PY  
  
 FILE 'FSTA'

114742 1999-2004/PY  
L77 28 (L25 OR L38 OR L64) NOT 1999-2004/PY

TOTAL FOR ALL FILES  
L78 338 (L26 OR L39 OR L65) NOT 1999-2004/PY

=> dup rem l78  
PROCESSING COMPLETED FOR L78  
L79 158 DUP REM L78 (180 DUPLICATES REMOVED)

=> d tot

L79 ANSWER 1 OF 158 MEDLINE on STN DUPLICATE 1  
TI Restoration of catalytic activity beyond wild-type level in glucoamylase from *Aspergillus awamori* by oxidation of the Glu400-->Cys catalytic-base mutant to cysteinesulfinic acid.  
SO Biochemistry, (1998 Mar 17) 37 (11) 3743-52.  
Journal code: 0370623. ISSN: 0006-2960.  
AU Fierobe H P; Mirgorodskaya E; McGuire K A; Roepstorff P; Svensson B; Clarke A J  
AN 1998191334 MEDLINE

L79 ANSWER 2 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN DUPLICATE 2  
TI Preparation and stability of glucoamylase immobilized on porous starch graft copolymer beads  
SO CHEMICAL JOURNAL OF CHINESE UNIVERSITIES-CHINESE, (AUG 1998) Vol. 19, No. 8, pp. 1346-1348.  
Publisher: HIGHER EDUCATION PRESS, SHATANHOU ST 55, BEIJING 100009, PEOPLES R CHINA.  
ISSN: 0251-0790.  
AU Wu Y G (Reprint); Ge Y B; Sun W T; Wang S Y; Zhou H; Li W  
AN 1998:669824 SCISEARCH

L79 ANSWER 3 OF 158 MEDLINE on STN DUPLICATE 3  
TI Effect on thermostability and catalytic activity of introducing disulfide bonds into *Aspergillus awamori* glucoamylase.  
SO Protein engineering, (1998 Aug) 11 (8) 661-7.  
Journal code: 8801484. ISSN: 0269-2139.  
AU Li Y; Coutinho P M; Ford C  
AN 1998420366 MEDLINE

L79 ANSWER 4 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN DUPLICATE 4  
TI Purification and characterization of extracellular glucoamylase from the thermophilic *Thermomyces lanuginosus*  
SO MYCOLOGICAL RESEARCH, (MAY 1998) Vol. 102, Part 5, pp. 568-572.  
Publisher: CAMBRIDGE UNIV PRESS, 40 WEST 20TH STREET, NEW YORK, NY 10011-4211.  
ISSN: 0953-7562.  
AU Li D C (Reprint); Yang Y J; Peng Y L; Shen C Y  
AN 1998:314648 SCISEARCH

L79 ANSWER 5 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN DUPLICATE 5  
TI Purification and characterization of a **thermostable glucoamylase** from *Aspergillus fumigatus*  
SO CANADIAN JOURNAL OF MICROBIOLOGY, (MAY 1998) Vol. 44, No. 5, pp. 493-497.  
Publisher: NATL RESEARCH COUNCIL CANADA, RESEARCH JOURNALS, MONTREAL RD, OTTAWA ON K1A 0R6, CANADA.  
ISSN: 0008-4166.  
AU daSilva W B; Peralta R M (Reprint)  
AN 1998:608265 SCISEARCH

L79 ANSWER 6 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Purification and characterization of a **thermostable glucoamylase** from *Aspergillus fumigatus*;

enzyme purification  
SO Can.J.Microbiol.; (1998) 44, 5, 493-97  
CODEN: CJMIAZ ISSN: 0008-4166  
AU Brandani da Silva W; Peralta R M  
AN 1999-02408 BIOTECHDS

L79 ANSWER 7 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Genetic and biochemical analysis of *Aspergillus awamori*  
**glucoamylase thermostability**  
SO (1997) 95 pp. Avail.: UMI, Order No. DA9814614  
From: Diss. Abstr. Int., B 1998, 58(11), 5784  
AU Allen, Martin John  
AN 1998:216689 HCAPLUS  
DN 129:37931

L79 ANSWER 8 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Enzyme conversion of starch to a high solids product;  
starch liquefaction using **thermostable** alpha-amylase,  
beta-amylase, **glucoamylase**, pullulanase or isoamylase  
AU Shi Y C; Eden J J; Kasica J J; Jeffcoat R  
AN 1998-01683 BIOTECHDS  
PI EP 806434 12 Nov 1997

L79 ANSWER 9 OF 158 MEDLINE on STN DUPLICATE 6  
TI Effect of introducing proline residues on the stability of *Aspergillus*  
*awamori*.  
SO Protein engineering, (1997 Oct) 10 (10) 1199-204.  
Journal code: 8801484. ISSN: 0269-2139.  
AU Li Y; Reilly P J; Ford C  
AN 1998147468 MEDLINE

L79 ANSWER 10 OF 158 FSTA COPYRIGHT 2004 IFIS on STN  
TI Review of future amylases and related enzymes.  
SO Journal of Applied Glycoscience, (1997), 44 (3) 420-424  
ISSN: 1340-3494  
AU Komaki, T.  
AN 1998(05):B0627 FSTA

L79 ANSWER 11 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Purification and characterization of **thermostable**  
**glucoamylase** from thermophilic fungi *Thermomyces lanuginosus* A236  
SO Junwu Kitong (1997), 16(4), 300-306  
CODEN: JUXIFB; ISSN: 1007-3515  
AU Yang, Yijun; Li, Douchuan; Yan, Kun; Peng, Youliang; Sheng, Congyao  
AN 1998:707863 HCAPLUS  
DN 130:135694

L79 ANSWER 12 OF 158 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
DUPLICATE 7  
TI Enhanced **thermostability** of **glucoamylase** from  
*Aspergillus niger*.  
SO Dokladi na B"lgarskata Akademiya na Naukite, (1997) Vol. 50, No. 7-8, pp.  
53-56. print.  
ISSN: 0861-1459.  
AU Tsekova, K. [Reprint author]; Vicheva, A. [Reprint author]; Tzekova, A.  
[Reprint author]  
AN 1999:455170 BIOSIS

L79 ANSWER 13 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Genetic construction and biochemical analysis of **thermostability**  
mutants of **glucoamylase** from *Aspergillus awamori*  
SO (1996) 107 pp. Avail.: Univ. Microfilms Int., Order No. DA9712579  
From: Diss. Abstr. Int., B 1997, 57(11), 6761  
AU Li, Yuxing



AN 1997:312851 HCAPLUS  
DN 126:289888

L79 ANSWER 14 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Production of heat stable glucoamylase in yeast able to utilize starch;  
Arxula adeninivorans gene cloning and expression in Saccharomyces  
cerevisiae for use in starch saccharification  
AU Kunze G; Gui M D; Kunze S I; Foerster S  
AN 1996-03582 BIOTECHDS  
PI DE 4425058 18 Jan 1996

L79 ANSWER 15 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Thermostable enzymes from sulfate-nonreducing strict anaerobic  
thermophilic and hyperthermophilic bacteria  
SO PCT Int. Appl., 42 pp.  
CODEN: PIXXD2  
IN Ollivier, Bernard; Fardeau, Marie-Laure; Robert, Herve; Ravot, Gilles;  
Cayol, Jean-Luc; Magot, Michel; Garcia, Jean-Louis  
AN 1996:295085 HCAPLUS  
DN 124:315179

|    | PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|----|--|------|----------|-----------------|----------|
| PI | WO 9604366   | A1   | 19960215 | WO 1995-FR1022  | 19950728 |
|    | W: CA, JP, US  |      |          |                 |          |
|    | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE |      |          |                 |          |
|    | FR 2723103   | A1   | 19960202 | FR 1994-9451    | 19940729 |
|    | FR 2723103   | B1   | 19961004 |                 |          |

L79 ANSWER 16 OF 158 MEDLINE on STN DUPLICATE 8  
TI Mutational modulation of substrate bond-type specificity and  
**thermostability of glucoamylase** from Aspergillus awamori  
by replacement with short homologue active site sequences and  
thiol/disulfide engineering.  
SO Biochemistry, (1996 Jul 2) 35 (26) 8696-704.  
Journal code: 0370623. ISSN: 0006-2960.  
AU Fierobe H P; Stoffer B B; Frandsen T P; Svensson B  
AN 96266169 MEDLINE

L79 ANSWER 17 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI High-yield production of Saccharomycopsis fibuligera glucoamylase in  
Escherichia coli, refolding, and comparison of the nonglycosylated and  
glycosylated enzyme forms;  
protein renaturation and purification from inclusion body  
SO Biochem.Biophys.Res.Communic.; (1996) 224, 3, 790-95  
CODEN: BBRC9 ISSN: 0006-291X  
AU Solovicova A; Gasperik J; \*Hostinova E  
AN 1996-11971 BIOTECHDS

L79 ANSWER 18 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Effect of replacing helical glycine residues with alanines on reversible  
and irreversible stability and production of Aspergillus awamori  
glucoamylase;  
enzyme engineering for improved thermostability and recombinant  
protein secretion by Saccharomyces cerevisiae  
SO Protein Eng.; (1996) 9, 6, 499-505  
CODEN: PRENE9 ISSN: 0269-2139  
AU Chen H; Li Y; Panda T; Buehler F U; Ford C; Reilly P J  
AN 1996-09632 BIOTECHDS

L79 ANSWER 19 OF 158 FSTA COPYRIGHT 2004 IFIS on STN  
TI Effect of replacing helical glycine residues with alanines on reversible  
and irreversible stability and production of Aspergillus awamori  
glucoamylase.  
SO Protein Engineering, (1996), 9 (6) 499-505, 27 ref.

AU Hsiu-Mei Chen; Yuxing Li; Tapobrata Panda; Buehler, F. U.; Ford, C.;  
Reilly, P. J.  
AN 1996(09):B0026 FSTA

L79 ANSWER 20 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI A pullulan-degrading enzyme activity of *Aureobasidium pullulans*;  
**thermostable glucoamylase**-B isolation with  
pullulanase activity; importance in pullulan production  
SO J.Basic Microbiol.; (1996) 36, 5, 377-80  
CODEN: JBMIEQ ISSN: 0233-111X  
AU West T P; Strohfus B  
AN 1996-15476 BIOTECHDS

L79 ANSWER 21 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Biochemical characterization of glucoamylase from the hyperproducer exo-1  
mutant strain of *Neurospora crassa*;  
thermostable enzyme preparation, purification and properties  
SO FEMS Microbiol.Lett.; (1996) 138, 2-3, 173-77  
CODEN: FMLED7 ISSN: 0378-1097  
AU Spinelli L B B; de Lourdes M; Polizeli T M; Terenzi H F; \*Jorge J A  
AN 1996-08972 BIOTECHDS

L79 ANSWER 22 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Mutagenesis for hyperproduction of extracellular amylases by *Thermomyces*  
*lanuginosus*;  
culture medium optimization for **thermostable** alpha-amylase  
and **glucoamylase** production from mutant  
SO Acta Microbiol.Pol.; (1996) 45, 1, 31-36  
CODEN: AMPOAX ISSN: 0001-6195  
AU Singh C B; \*Arvind S S; Singh S H  
AN 1996-11355 BIOTECHDS

L79 ANSWER 23 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN DUPLICATE 9  
TI PURIFICATION AND CHARACTERIZATION OF A GLUCOAMYLASE FROM *HUMICOLA-GRISEA*  
SO APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (JUN 1995) Vol. 61, No. 6, pp.  
2436-2438.  
ISSN: 0099-2240.  
AU CAMPOS L; FELIX C R (Reprint)  
AN 95:389577 SCISEARCH

L79 ANSWER 24 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Purification and characterization of a glucoamylase from *Humicola grisea*;  
thermostable enzyme insensitive to product inhibition  
SO Appl.Environ.Microbiol.; (1995) 61, 6, 2436-38  
CODEN: AEMIDF ISSN: 0099-2240  
AU Campos L; \*Felix C R  
AN 1995-09203 BIOTECHDS

L79 ANSWER 25 OF 158 FSTA COPYRIGHT 2004 IFIS on STN  
TI Enzyme and microbial systems involved in starch processing.  
SO Enzyme and Microbial Technology, (1995), 17 (9) 770-778, 137 ref.  
ISSN: 0141-0229  
AU Poonam Nigam; Dalel Singh  
AN 1996(03):L0013 FSTA

L79 ANSWER 26 OF 158 MEDLINE on STN DUPLICATE 10  
TI Identification and elimination by site-directed mutagenesis of  
thermolabile aspartyl bonds in *Aspergillus awamori* glucoamylase.  
SO Protein engineering, (1995 Jun) 8 (6) 575-82.  
Journal code: 8801484. ISSN: 0269-2139.  
AU Chen H M; Ford C; Reilly P J  
AN 96081441 MEDLINE

L79 ANSWER 27 OF 158 FSTA COPYRIGHT 2004 IFIS on STN

TI Identification and elimination by site-directed mutagenesis of thermolabile aspartyl bonds in *Aspergillus awamori* glucoamylase.  
 SO Protein Engineering, (1995), 8 (6) 575-582, 42 ref.  
 AU Hsiu-Mei Chen; Ford, C.; Reilly, P. J.  
 AN 1995(11):B0017 FSTA

L79 ANSWER 28 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Molecular cloning and transcriptional analysis of the *Aspergillus terreus* glal gene encoding a glucoamylase;  
 thermostable enzyme DNA sequence; use in starch saccharification  
 SO Appl.Environ.Microbiol.; (1995) 61, 1, 399-402  
 CODEN: AEMIDF ISSN: 0099-2240  
 AU Ventura L; Gonzalez-Candelas L; Perez-Gonzalez J A; \*Ramon D  
 AN 1995-04836 BIOTECHDS

L79 ANSWER 29 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Stability of immobilized amyloglucosidase in the process of cassava starch saccharification;  
*Aspergillus niger* **thermostable glucoamylase**  
 immobilization on a controlled pore glass support, and effect of temperature on enzyme deactivation (conference paper)  
 SO Appl.Biochem.Biotechnol.; (1995) 51-52, 253-62  
 CODEN: ABIBDL ISSN: 0273-2289  
 Biotechnology for Fuels and Chemicals, 16th Symposium, Gatlinburg, Tennessee, 9-13 May, 1994.  
 AU Zanin G M; de Moraes F F  
 AN 1995-11095 BIOTECHDS

L79 ANSWER 30 OF 158 MEDLINE on STN DUPLICATE 11  
 TI Characterization, subsite mapping and partial amino acid sequence of glucoamylase from the filamentous fungus *Trichoderma reesei*.  
 SO Biotechnology and applied biochemistry, (1995 Apr) 21 ( Pt 2) 223-31.  
 Journal code: 8609465. ISSN: 0885-4513.  
 AU Fagerstrom R; Kalkkinen N  
 AN 95234218 MEDLINE

L79 ANSWER 31 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Identification, characterization, and partial purification of glucoamylase from *Aspergillus niger* (syn *A. ficuum*) NRRL 3135;  
 enzyme isolation and properties  
 SO Prep.Biochem.; (1995) 25, 1-2, 29-55  
 CODEN: PRBCBQ ISSN: 0032-7484  
 AU Vandersall A S; Cameron R G; Nairn III C J; Yelenosky G; Wodzinski R J  
 AN 1995-07354 BIOTECHDS

L79 ANSWER 32 OF 158 FSTA COPYRIGHT 2004 IFIS on STN  
 TI Site-directed mutagenesis to enhance **thermostability** of *Aspergillus awamori* **glucoamylase** expressed in *Saccharomyces cerevisiae*.  
 SO Dissertation Abstracts International, B, (1994, thesis publ. 1993), 54 (12) 5998 Order no. DA9413960, 185pp.  
 ISSN: 0419-4217  
 AU Hsiu-Mei Chen  
 AN 1995(03):B0023 FSTA

L79 ANSWER 33 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
 TI Activity and **thermostability** of **glucoamylase** immobilized by diazotization  
 SO Gaodeng Xuexiao Huaxue Xuebao (1994), 15(5), 681-4  
 CODEN: KTHPDM; ISSN: 0251-0790  
 AU Kong, Wei; Zhou, Hui; Wang, Li-Ping; Chen, Zun; Li, Wei; Shen, Jia-Cong  
 AN 1995:42662 HCAPLUS  
 DN 122:127520

L79 ANSWER 34 OF 158 MEDLINE on STN DUPLICATE 12  
 TI Substitution of asparagine residues in *Aspergillus awamori* glucoamylase by site-directed mutagenesis to eliminate N-glycosylation and inactivation by deamidation.  
 SO Biochemical journal, (1994 Jul 1) 301 ( Pt 1) 275-81.  
 Journal code: 2984726R. ISSN: 0264-6021.  
 AU Chen H M; Ford C; Reilly P J  
 AN 94311844 MEDLINE

L79 ANSWER 35 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN DUPLICATE 13  
 TI PURIFICATION AND CHARACTERIZATION OF A **THERMOSTABLE GLUCOAMYLASE** FROM A MYROTHECIUM ISOLATE  
 SO JOURNAL OF APPLIED BACTERIOLOGY, (MAR 1994) Vol. 76, No. 3, pp. 210-215. ISSN: 0021-8847.  
 AU ALI S (Reprint); MALEK S; HOSSAIN Z  
 AN 94:160769 SCISEARCH

L79 ANSWER 36 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Purification and characterization of a **thermostable glucoamylase** from a *Myrothecium* isolate; enzyme isolation and properties  
 SO J.Appl.Bacteriol.; (1994) 76, 3, 210-15  
 CODEN: JABAA4  
 AU Ali S; Malek S; Hossain Z  
 AN 1994-05314 BIOTECHDS

L79 ANSWER 37 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Increased thermostability of Asn182-Ala mutant *Aspergillus awamori* glucoamylase; thermostable enzyme expression in *Saccharomyces cerevisiae*  
 SO Biotechnol.Bioeng.; (1994) 43, 1, 101-05  
 CODEN: BIBIAU  
 AU Chen H; Bakir U; \*Reilly P J; Ford C  
 AN 1994-01051 BIOTECHDS

L79 ANSWER 38 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
 TI Comparison of amylolytic characterization of two strains of *Aspergillus*  
 SO Shipin Yu Fajiao Gongye (1994), (6), 42-6  
 CODEN: SPYYDO; ISSN: 0253-990X  
 AU Li, Xianzhen; Zhang, Yu; Jin, Fengxie  
 AN 1995:527551 HCAPLUS  
 DN 122:286219

L79 ANSWER 39 OF 158 FSTA COPYRIGHT 2004 IFIS on STN  
 TI [Comparison of amylolytic characteristics of 2 strains of *Aspergillus*.]  
 SO Food & Fermentation Industries, (1994), No. 6, 42-46, 11 ref.  
 AU Li, X. Z.; Jin, F. X.  
 AN 1996(01):B0030 FSTA

L79 ANSWER 40 OF 158 MEDLINE on STN DUPLICATE 15  
 TI Purification and specificity of recombinant *Hormoconis resinae* glucoamylase P and endogenous glucoamylase from *Trichoderma reesei*.  
 SO Enzyme and microbial technology, (1994 Jan) 16 (1) 36-42.  
 Journal code: 8003761. ISSN: 0141-0229.  
 AU Fagerstrom R  
 AN 94197993 MEDLINE

L79 ANSWER 41 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Amylases of a temperature tolerant micromycete, *Aspergillus awamori* VUDT-2: preparative production; culture medium optimization using a mathematical model, for **thermostable glucoamylase** and alpha-amylase production and purification

- SO Biotekhnologiya; (1994) 3, 11-14  
CODEN: BTKNEZ
- AU Yakovlev A N; Zhrebtsov N A; Grigorov V S; Ruadze I D  
AN 1994-11835 BIOTECHDS
- L79 ANSWER 42 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Amylases of a temperature tolerant micromycetes *Aspergillus awamori* VTDT2-2: Preparative production
- SO Biotekhnologiya (1994), (3), 11-14  
CODEN: BTKNEZ; ISSN: 0234-2758
- AU Yakovlev, A. N.; Zhrebtsov, N. A.; Grigorov, V. S.; Ruadze, I. D.  
AN 1994:628888 HCAPLUS  
DN 121:228888
- L79 ANSWER 43 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Biotechnology of starch conversion;  
alpha-amylase, **glucoamylase**, pullulanase,  
**thermostable** glucose-isomerase, amylopullulanase and  
neopullulanase application in production of sugar, sweetener and  
alcohol (conference abstract)
- SO Abstr.Pap.Am.Chem.Soc.; (1994) 207 Meet., Pt.1, CELL50  
CODEN: ACSRAL
- AU Saha B C; Bothast R J  
AN 1994-06310 BIOTECHDS
- L79 ANSWER 44 OF 158 MEDLINE on STN DUPLICATE 16  
TI Effects of moranoline, 4-O-alpha-D-glucopyranosylmoranoline and their  
N-substituted derivatives on **thermostability** of cyclodextrin  
glycosyltransferase, **glucoamylase**, and beta-amylase.
- SO Bioscience, biotechnology, and biochemistry, (1993 Aug) 57 (8) 1294-8.  
Journal code: 9205717. ISSN: 0916-8451.
- AU Maruo S; Kyotani Y; Yamamoto H; Miyazaki K; Ogawa H; Sakai T; Kojima M;  
Ezure Y  
AN 93379356 MEDLINE
- L79 ANSWER 45 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN DUPLICATE  
17  
TI PURIFICATION AND CHARACTERIZATION OF AN EXTRACELLULAR GLUCOAMYLASE FROM  
THE THERMOPHILIC FUNGUS HUMICOLA-GRISEA VAR THERMOIDEA
- SO CANADIAN JOURNAL OF MICROBIOLOGY, (SEP 1993) Vol. 39, No. 9, pp. 846-852.  
ISSN: 0008-4166.
- AU TOSI L R O; TERENCE H F; JORGE J A (Reprint)  
AN 93:635316 SCISEARCH
- L79 ANSWER 46 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN DUPLICATE  
18  
TI PRODUCTION OF AMYLASE BY SOIL FUNGI AND PARTIAL BIOCHEMICAL-  
CHARACTERIZATION OF AMYLASE OF A SELECTED STRAIN (*ASPERGILLUS-FUMIGATUS*  
*FRESENIUS*)
- SO CANADIAN JOURNAL OF MICROBIOLOGY, (JUL 1993) Vol. 39, No. 7, pp. 681-685.  
ISSN: 0008-4166.
- AU DOMINGUES C M; PERALTA R M (Reprint)  
AN 93:481080 SCISEARCH
- L79 ANSWER 47 OF 158 MEDLINE on STN DUPLICATE 19  
TI Enhanced recovery and purification of *Aspergillus glucoamylase* from  
*Saccharomyces cerevisiae* by the addition of poly(aspartic acid) tails.
- SO Enzyme and microbial technology, (1993 Jul) 15 (7) 593-600.  
Journal code: 8003761. ISSN: 0141-0229.
- AU Suominen I; Ford C; Stachon D; Heimo H; Niederauer M; Nurmela H; Glatz C  
AN 93371800 MEDLINE
- L79 ANSWER 48 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Purification and properties of two forms of glucoamylase from

- Saccharomycopsis fibuligera;  
enzyme isolation and characterization
- SO J.Ferment.Bioeng.; (1993) 76, 6, 521-23  
CODEN: JFBIEX
- AU Futatsugi M; Ogawa T; Fukuda H  
AN 1994-03541 BIOTECHDS
- L79 ANSWER 49 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 20  
TI Characterization of glucoamylase from Neosartorya fischeri  
SO Lebensmittel-Wissenschaft und -Technologie (1993), 26(5), 483-4  
CODEN: LBWTAP; ISSN: 0023-6438  
AU Hang, Y. D.; Woodams, E. E.  
AN 1994:292577 HCAPLUS  
DN 120:292577
- L79 ANSWER 50 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI A flow injection system for the determination of starch from different origins with immobilized alpha-amylase and amyloglucosidase reactors;  
**thermostable** alpha-amylase and **glucoamylase**  
immobilization and application to starch-related polysaccharide and oligosaccharide flow injection analysis for glucose content  
SO Starch; (1993) 45, 8, 264-70  
CODEN: STARD  
AU Emneus J; Nilsson G; Gorton L  
AN 1993-11453 BIOTECHDS
- L79 ANSWER 51 OF 158 MEDLINE on STN DUPLICATE 21  
TI Effect of substrate presoaking treatment of support materials on the activity of immobilized glucoamylase.  
SO Enzyme and microbial technology, (1993 Mar) 15 (3) 229-33.  
Journal code: 8003761. ISSN: 0141-0229.  
AU Mukataka S; Negishi S; Sato S; Takahashi J  
AN 93199777 MEDLINE
- L79 ANSWER 52 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN DUPLICATE 22  
TI THERMOPHILIC **GLUCOAMYLASE** FROM **TALAROMYCES-FLAVUS**  
SO LETTERS IN APPLIED MICROBIOLOGY, (OCT 1993) Vol. 17, No. 4, pp. 156-157.  
ISSN: 0266-8254.  
AU HANG Y D (Reprint); WOODAMS E E  
AN 93:605611 SCISEARCH
- L79 ANSWER 53 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Glucoamylases encoded by variant Saccharomycopsis fibuligera genes: structure and properties;  
recombinant **thermostable glucoamylase** expression  
in Saccharomyces cerevisiae, and purification and characterization;  
glycosylation effect  
SO Curr.Microbiol.; (1993) 27, 1, 11-14  
CODEN: CUMIDD  
AU Gasperik J; Hostinova E  
AN 1993-10604 BIOTECHDS
- L79 ANSWER 54 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Thermostability of a site-directed mutant of Aspergillus awamori glucoamylase expressed in Saccharomyces cerevisiae;  
recombinant thermostable enzyme characterization and enzyme stabilization by removal of deamidating site (conference abstract)  
SO Protein Eng.; (1993) 6, Suppl., 10  
CODEN: PRENE9  
AU Chen H M; Reilly P J; Ford C  
AN 1993-04736 BIOTECHDS
- L79 ANSWER 55 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN

TI Thermostable pullulanase of a Thermotogales and its purification  
 SO PCT Int. Appl., 31 pp.  
 CODEN: PIXXD2  
 IN Antranikian, Garabed; Joergensen, Per Linnaa  
 AN 1992:647744 HCAPLUS  
 DN 117:247744

|    | PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|----|--|------|----------|-----------------|----------|
| PI | WO 9216617   | A1   | 19921001 | WO 1992-DK79    | 19920313 |
|    | W: CA, FI, JP, KR, US                                      |      |          |                 |          |
|    | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE |      |          |                 |          |
|    | EP 578672  | A1   | 19940119 | EP 1992-907192  | 19920313 |
|    | EP 578672  | B1   | 19960925 |                 |          |
|    | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE  |      |          |                 |          |
|    | JP 06505632  | T2   | 19940630 | JP 1992-506824  | 19920313 |
|    | AT 143410  | E    | 19961015 | AT 1992-907192  | 19920313 |
|    | ES 2092103   | T3   | 19961116 | ES 1992-907192  | 19920313 |
|    | US 5486469   | A    | 19960123 | US 1993-94204   | 19930803 |

L79 ANSWER 56 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Effect of organic solvents on stability of two glycosidases and on  
 glucoamylase-catalyzed oligosaccharide synthesis;  
 beta-galactosidase and **glucoamylase** activity and  
**thermostability** examined in 66 organic solvent based systems  
 SO Enzyme Microb. Technol.; (1992) 14, 7, 528-34  
 CODEN: EMTED2  
 AU Laroute V; \*Willemot R M  
 AN 1992-09964 BIOTECHDS

L79 ANSWER 57 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI The effects of enzyme hydrolysis on the properties of potato, cassava and  
 amaranth starches;  
 using **thermostable** alpha-amylase and **glucoamylase**  
 SO Starch; (1992) 44, 12, 461-66  
 CODEN: STARDD  
 AU Gorinstein S; Lii C  
 AN 1993-01805 BIOTECHDS

L79 ANSWER 58 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Synthesis of oligosaccharide by reversal of a fungal beta-glucanase;  
 gluco-oligosaccharide and hetero-oligosaccharide production by  
 Penicillium **emersonii** **glucoamylase**-catalyzed  
 condensation  
 SO Biotechnol. Lett.; (1992) 14, 5, 373-78  
 CODEN: BILED3  
 AU Rastall R A; Pikett S F; Adlard M W; Bucke C  
 AN 1992-08132 BIOTECHDS

L79 ANSWER 59 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Transformation of the thermophilic fungus Humicola grisea var. thermoidea  
 and overproduction of Humicola glucoamylase;  
 thermostable enzyme over-production  
 SO Curr. Genet.; (1992) 21, 3, 225-29  
 CODEN: CUGED5  
 AU Allison D S; Rey M W; Berka R M; Armstrong G; Dunn-Coleman N S  
 AN 1992-08239 BIOTECHDS

L79 ANSWER 60 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Examination in starch degradation using technical enzyme preparations in  
 bioethanol production;  
 ethanol production by starch saccharification optimization using  
 commercial **thermostable** alpha-amylase, **glucoamylase**  
 , barley malt or OPTIMALT combination (conference paper)  
 SO DECHEMA Biotechnol. Conf.; (1992) 5, Pt. A, 155-60

AU Senn T  
AN 1993-04607 BIOTECHDS

L79 ANSWER 61 OF 158 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
TI AMYLASE PRODUCTION BY A SCHWANNIOMYCES-OCCIDENTALIS MUTANT IN CHEMOSTAT  
CULTURE.  
SO Applied Microbiology and Biotechnology, (1992) Vol. 37, No. 2, pp.  
147-151.  
CODEN: AMBIDG. ISSN: 0175-7598.  
AU HORN C H [Reprint author]; DU PREEZ J C; KILIAN S G  
AN 1992:346495 BIOSIS

L79 ANSWER 62 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Immobilization of amyloglucosidase onto granular chicken bone;  
use of immobilized Aspergillus niger glucoamylase in starch  
saccharification  
SO Appl.Biochem.Biotechnol.; (1992) 32, 89-109  
CODEN: ABIBDL  
AU Schafhauser D Y; \*Storey K B  
AN 1992-11100 BIOTECHDS

L79 ANSWER 63 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Biotechnology in the malting and brewing industry;  
e.g. development of new barley varieties, thermostable enzyme  
application and improved process design (conference paper)  
SO Biotechnol.Ed.; (1992) 3, 1, 26-32  
AU Atkinson B  
AN 1992-13136 BIOTECHDS

L79 ANSWER 64 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Purification and properties of a thermoactive glucoamylase from  
Clostridium thermosaccharolyticum;  
thermostable enzyme isolation and characterization  
SO Appl.Environ.Microbiol.; (1991) 57, 8, 2317-23  
CODEN: AEMIDF  
AU Specka U; Mayer F; \*Antranikian G  
AN 1991-11303 BIOTECHDS

L79 ANSWER 65 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Purification and some properties of a glucoamylase from Clostridium sp.  
G0005;  
isolation and characterization  
SO Agric.Biol.Chem.; (1991) 55, 7, 1901-02  
CODEN: ABCHA6  
AU Ohnishi H; Sakai H; Ohta T  
AN 1991-11299 BIOTECHDS

L79 ANSWER 66 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Growth and glucoamylase production by the thermophilic fungus Thermomyces  
lanuginosus in a synthetic medium;  
comparison of yeast extract and inorganic N-source for enzyme  
production  
SO Appl.Microbiol.Biotechnol.; (1991) 34, 5. 656-660  
CODEN: EJABDD  
AU Haasum I; Eriksen S H; Jensen B; Olsen J  
AN 1991-05929 BIOTECHDS

L79 ANSWER 67 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN  
TI GROWTH AND GLUCOAMYLASE PRODUCTION BY THE THERMOPHILIC FUNGUS  
THERMOMYCES-LANUGINOSUS IN A SYNTHETIC MEDIUM  
SO APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, (1991) Vol. 34, No. 5, pp.  
656-660.  
AU HAASUM I (Reprint); ERIKSEN S H; JENSEN B; OLSEN J  
AN 91:127070 SCISEARCH



L79 ANSWER 68 OF 158 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 DUPLICATE 24  
 TI GLUCOAMYLASE COVALENTLY BOUND TO ACRYLIC CARRIERS.  
 SO Starch, (1991) Vol. 43, No. 7, pp. 283-288.  
 CODEN: STARDD. ISSN: 0038-9056.  
 AU WAWRZYNIAK B [Reprint author]; KRAUZE J  
 AN 1991:407705 BIOSIS

L79 ANSWER 69 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN  
 TI GLUCOAMYLASE COVALENTLY BOUND TO ACRYLIC CARRIERS  
 SO STARCH-STARKE, (1991) Vol. 43, No. 7, pp. 283-288.  
 AU WAWRZYNIAK B; KRAUZE J (Reprint)  
 AN 91:463150 SCISEARCH

L79 ANSWER 70 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Purification and characterization of glucoamylase of *Aspergillus terreus*  
 NA-170 mutant;  
 obtained by multi-step mutagenesis  
 SO J.Appl.Bacteriol.; (1991) 71, 2, 162-69  
 CODEN: JABAA4  
 AU Ghosh A; Chatterjee B; Das A  
 AN 1991-12442 BIOTECHDS

L79 ANSWER 71 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Characteristics of glucoamylase from *Aspergillus terreus*;  
 enzyme characterization  
 SO J.Appl.Bacteriol.; (1991) 71, 2, 144-46  
 CODEN: JABAA4  
 AU Ali S; Hossain Z  
 AN 1991-12440 BIOTECHDS

L79 ANSWER 72 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Topographical and enzymatic characterization of amylases from the  
 extremely thermophilic eubacterium *Thermotoga maritima*;  
**thermostable** alpha-amylase, beta-amylase and  
**glucoamylase** characterization; potential application in  
 industrial starch processing  
 SO FEBS Lett.; (1991) 282, 1, 122-26  
 CODEN: FEBLAL  
 AU Schumann J; Wrba A; \*Jaenicke R; Stetter K O  
 AN 1991-07146 BIOTECHDS

L79 ANSWER 73 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Purification and characterization of the amylolytic enzymes of  
*Saccharomycopsis fibuligera*;  
**thermostable** alpha-amylase and **glucoamylase**  
 isolation  
 SO Int.J.Biochem.; (1991) 23, 1, 21-25  
 CODEN: IJBOBV  
 AU Gasperik J; Kovac L; Minarikova O  
 AN 1991-01716 BIOTECHDS

L79 ANSWER 74 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI New gene cloning, vector and transformant;  
*Aspergillus usamii* mut. shirousamii acid-tolerant glucoamylase  
 expression in *Saccharomyces cerevisiae* and *Aspergillus oryzae*;  
 potential rice saccharification and ethanol production  
 AN 1990-10899 BIOTECHDS  
 PI JP 02119779 7 May 1990

L79 ANSWER 75 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Optimal heat-induced conformation for *Aspergillus glucoamylase* activity;  
 purification and determination of optimum conditions for induction of

thermostability (conference paper)  
SO Ann.N.Y.Acad.Sci.; (1990) 613, 887-91  
CODEN: ANYAA9  
AU Luo G M; Cao S G; Chen G J; Cheng Y H  
AN 1991-05301 BIOTECHDS

L79 ANSWER 76 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Research on new thermostable saccharifying activities in filamentous  
fungi;  
fungus screening for starch saccharification activity; Thermoascus  
crustaceus **thermostable glucoamylase** activity  
characterization  
SO Can.J.Microbiol.; (1990) 36, 9, 625-30  
CODEN: CJMIAZ  
AU Vanacker P; Bacle B; Vidal G; Lacoste L  
AN 1990-14961 BIOTECHDS

L79 ANSWER 77 OF 158 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
TI ISOLATION AND PROPERTIES OF GLUCOAMYLASE FROM THE ASPERGILLUS-AWAMORI L-56  
MUTANT STRAIN.  
SO Soobshcheniya Akademii Nauk Gruzinskoi SSR, (1990) Vol. 139, No. 3, pp.  
565-568.  
ISSN: 0132-1447.  
AU KUTATELADZE L YU [Reprint author]; KVACHADZE L L  
AN 1991:300650 BIOSIS

L79 ANSWER 78 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Starch conversion with immobilized thermophilic archaeobacterium  
Sulfolobus solfataricus;  
glucose production from starch saccharification by  
**thermostable glucoamylase**  
SO Biotechnol.Lett.; (1990) 12, 6, 431-32  
CODEN: BILED3  
AU Lama L; Nicolaus B; Trincone A; Morzillo P; De Rosa M; Gambacorta A  
AN 1990-10306 BIOTECHDS

L79 ANSWER 79 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Characterization of glucoamylase from Aspergillus terreus 4;  
purification and properties of the enzyme  
SO FEMS Microbiol.Lett.; (1990) 66, 1-3, 345-50  
CODEN: FMLED7  
AU Ghose A; Chatterjee B S; \*Das A  
AN 1990-02924 BIOTECHDS

L79 ANSWER 80 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Mapping of the glucoamylase gene of Trichosporon adeninovorans by mitotic  
haploidization using hybrids from protoplast fusions;  
**thermostable glucoamylase** purification and  
characterization; protoplast fusion  
SO J.Basic Microbiol.; (1990) 30, 4, 227-31  
CODEN: JBMIEQ  
AU Buettnner R; Bode R; Samsonova I A; Birnbaum D  
AN 1990-12104 BIOTECHDS

L79 ANSWER 81 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Recent results of amylolytic enzymes research;  
Aspergillus niger and Bacillus licheniformis strain improvement for  
**thermostable alpha-amylase and glucoamylase**  
production; UV-irradiation mutagenesis, selection, transformation or  
protoplast fusion  
SO Acta Aliment.Acad.Sci.Hung.; (1990) 19, 2, 210-11  
CODEN: AAASCO  
AU Hoschke A  
AN 1990-14946 BIOTECHDS

L79 ANSWER 82 OF 158 MEDLINE on STN DUPLICATE 27  
 TI Irreversible thermoinactivation of **glucoamylase** from *Aspergillus niger* and **thermostabilization** by chemical modification of carboxyl groups.  
 SO *Biochimica et biophysica acta*, (1990 Nov 15) 1041 (2) 111-6.  
 Journal code: 0217513. ISSN: 0006-3002.  
 AU Munch O; Tritsch D  
 AN 91091411 MEDLINE

L79 ANSWER 83 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN  
 TI IRREVERSIBLE THERMOINACTIVATION OF **GLUCOAMYLASE** FROM *ASPERGILLUS-NIGER* AND **THERMOSTABILIZATION** BY CHEMICAL MODIFICATION OF CARBOXYL GROUPS  
 SO *BIOCHIMICA ET BIOPHYSICA ACTA*, (1990) Vol. 1041, No. 2, pp. 111-116.  
 AU MUNCH O; TRITSCH D (Reprint)  
 AN 90:654911 SCISEARCH

L79 ANSWER 84 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Characterization of a glucoamylase immobilized on chitin; particle support and comparison with free enzyme  
 SO *Biomass*; (1990) 23, 1, 71-78  
 CODEN: BIOME9  
 AU Freire D G; \*Sant'Anna Jr G L  
 AN 1990-15006 BIOTECHDS

L79 ANSWER 85 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI **Thermostable glucoamylase** production from *Trichosporon adeninovorans*; extracellular enzyme production for conversion of starch to glucose  
 AN 1989-12853 BIOTECHDS  
 PI DD 265163 22 Feb 1989

L79 ANSWER 86 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI *Saccharomyces cerevisiae* cloning vehicles; plasmid vector containing gene encoding **thermostable glucoamylase**  
 AN 1990-02950 BIOTECHDS  
 PI US 4870014 26 Sep 1989

L79 ANSWER 87 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Stabilizer for enzyme; use of cyclodextrin for enzyme stabilization of glycosidase, e.g. **thermostable glucoamylase** or cyclomaltodextrin-glucanotransferase preparation  
 AN 1989-11079 BIOTECHDS  
 PI JP 01117786 10 May 1989

L79 ANSWER 88 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Method for stabilization of amylase; e.g. **glucoamylase** enhanced **thermostability** using aluminum salt  
 AN 1989-10519 BIOTECHDS  
 PI JP 01104173 21 Apr 1989

L79 ANSWER 89 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI A method for preparation of thermostable pullulanase; starch saccharification; *Bacillus stearothermophilus* enzyme purification and characterization  
 AN 1989-09277 BIOTECHDS  
 PI JP 01085076 30 Mar 1989

L79 ANSWER 90 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
 TI Improved method for preparing high-maltose conversion syrups

SO Biotechnology and Bioengineering (1989), 34(3), 299-303  
 CODEN: BIBIAU; ISSN: 0006-3592  
 AU Saha, Badal C.; Zeikus, J. Gregory  
 AN 1989:456041 HCAPLUS  
 DN 111:56041

L79 ANSWER 91 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Enhanced stability of glucoamylase through chemical crosslinking;  
 thermostable enzyme (conference paper)  
 SO Appl.Biochem.Biotechnol.; (1989) 20-21, 293-308  
 CODEN: ABIBDL  
 AU Tatsumoto K; Oh K K; Baker J O; \*Himmel M E  
 AN 1990-04097 BIOTECHDS

L79 ANSWER 92 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Microbial glucoamylases: biochemical and biotechnological features;  
 industrial development and potential, review  
 SO Starch; (1989) 41, 2, 57-64  
 CODEN: STARDD  
 AU Saha B C; Zeikus J G  
 AN 1989-07275 BIOTECHDS

L79 ANSWER 93 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI The effect of alcohols on the biosynthesis of *Aspergillus niger* - 119;  
 citric acid production  
 SO Khranit.Promst.; (1989) 38, 2, 27-28  
 CODEN: KPRSAG  
 AU Georgieva M; Alexieva K; Gantchev I  
 AN 1989-09062 BIOTECHDS

L79 ANSWER 94 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Tailoring enzyme systems for food processing;  
**thermostable** alpha-amylase, **glucoamylase**,  
 debranching enzyme, glucose-isomerase, protease, beta-galactosidase,  
 chymosin and lipase enzyme engineering; baking and dairy industry  
 (conference paper)  
 SO Biocatal.Agric.Biotechnol.; (1989) ACS Symp.Ser.389, 24-43  
 AU Spradlin J E  
 AN 1990-05349 BIOTECHDS

L79 ANSWER 95 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Coproduction of amylases, pullulanase and ethanol;  
 beta-amylase and glucoamylase production by coculture of mutant  
 strains of *Clostridium thermosulfurogenes* and *Clostridium*  
*thermohydrosulfuricum*  
 AN 1988-07275 BIOTECHDS  
 PI US 4737459 12 Apr 1988

L79 ANSWER 96 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI **Thermostable** and acid-resistant **glucoamylase**;  
 from *Clostridium* sp., application with alpha-amylase to starch  
 saccharification, reactor for glucose production  
 AN 1988-04499 BIOTECHDS  
 PI EP 255124 3 Feb 1988

L79 ANSWER 97 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 TI Preparation of dextrose (glucose) and maltose syrups;  
 liquid starch saccharification by new **thermostable**  
 pullulanase and **glucoamylase** or maltose-producing enzyme  
 derived from rice  
 AN 1988-06658 BIOTECHDS  
 PI US 4734364 29 Mar 1988

L79 ANSWER 98 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN

TI System for manufacturing heat-resistant glucoamylase;  
**thermostable glucoamylase** produced by Clostridium  
species

AN 1988-11553 BIOTECHDS  
PI JP 38169986 Bg 13 Jul 1988

L79 ANSWER 99 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Manufacturing of heat-resistant glucoamylase;  
by culturing thermophilic Clostridium maltorigo

AN 1988-10982 BIOTECHDS  
PI JP 38164886 Bg 8 Jul 1988

L79 ANSWER 100 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI **Thermostable** and acid-resistant **glucoamylase**;  
produced by Clostridium sp.

AN 1988-06303 BIOTECHDS  
PI JP 38039577 Ba 20 Feb 1988

L79 ANSWER 101 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI **Thermostable glucoamylase** production and  
characterization;  
by Clostridium sp. culture

AN 1988-06300 BIOTECHDS  
PI JP 38036778 Bg 17 Feb 1988

L79 ANSWER 102 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Apparatus for manufacturing **thermostable glucoamylase**  
with Clostridium

SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF

IN Haga, Ryoichi; Tsuchiya, Masami; Ishida, Masahiko  
AN 1989:438007 HCAPLUS  
DN 111:38007

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|-------------|------|----------|-----------------|----------|
| JP 63169986 | A2   | 19880713 | JP 1987-422     | 19870107 |

L79 ANSWER 103 OF 158 LIFESCI COPYRIGHT 2004 CSA on STN DUPLICATE 32  
TI Effect of alpha -cyclodextrin on **thermostability** of  
**glucoamylase**.

SO AGRIC. BIOL. CHEM., (1988) vol. 52, no. 4, pp. 1073-1074.  
AU Ezure, Y.; Maruo, S.; Kojima, M.; Yamashita, H.; Sugiyama, M.  
AN 88:96786 LIFESCI

L79 ANSWER 104 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN  
TI EFFECT OF ALPHA-CYCLODEXTRIN ON **THERMOSTABILITY** OF  
**GLUCOAMYLASE**

SO AGRICULTURAL AND BIOLOGICAL CHEMISTRY, (1988) Vol. 52, No. 4, pp.  
1073-1074.

AU EZURE Y (Reprint); MARUO S; KOJIMA M; YAMASHITA H; SUGIYAMA M  
AN 88:250213 SCISEARCH

L79 ANSWER 105 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Effects of microenvironment on immobilized enzymes - shift of pH optimum

SO Shengwu Huaxue Zazhi (1988), 4(5), 414-19  
CODEN: SHZAE4; ISSN: 1000-8543

AU Zhou, Hui; Cha, Xiao; Li, Wei; Shen, Jiacong  
AN 1989:53728 HCAPLUS  
DN 110:53728

L79 ANSWER 106 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Selection of microscopic fungi producing glucoamylase;  
Aspergillus awamori, Mucor, Rhizopus, Trichothecium spp.

SO Mikrobiologiya; (1988) 57, 3, 405-09

CODEN: MIKBA5

AU Kvachadze L L; Kutateladze L Y; Kvesitadze G I  
AN 1988-09579 BIOTECHDS

L79 ANSWER 107 OF 158 MEDLINE on STN DUPLICATE 33  
TI Purification and characterization of a highly thermostable novel  
pullulanase from *Clostridium thermohydrosulfuricum*.  
SO Biochemical journal, (1988 Jun 1) 252 (2) 343-8.  
Journal code: 2984726R. ISSN: 0264-6021.  
AU Saha B C; Mathupala S P; Zeikus J G  
AN 88326243 MEDLINE

L79 ANSWER 108 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Chemical stabilization of glucoamylase from *Aspergillus niger* against  
thermal inactivation;  
covalent coupling to a soluble oxidized polysaccharide following  
introduction of addition amino groups  
SO Biotechnol.Bioeng.; (1988) 31, 3, 267-77  
CODEN: BIBIAU  
AU Lenders J P; \*Crichton R R  
AN 1988-04486 BIOTECHDS

L79 ANSWER 109 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI The properties of glucoamylase soluble and immobilized on DEAE-cellulose:  
Part II. **Thermostability of glucoamylase;**  
from *Aspergillus niger*  
SO Starch; (1988) 40, 5, 171-74  
CODEN: STARDD  
AU Przybyt M; Sugier H  
AN 1988-08215 BIOTECHDS

L79 ANSWER 110 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN  
TI THE PROPERTIES OF GLUCOAMYLASE SOLUBLE AND IMMOBILIZED ON DEAE-CELLULOSE  
.2. **THERMOSTABILITY OF GLUCOAMYLASE**  
SO STARCH-STARKE, (1988) Vol. 40, No. 5, pp. 171-174.  
AU PRZYBYT M (Reprint); SUGIER H  
AN 88:330188 SCISEARCH

L79 ANSWER 111 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Purification and properties of an extracellular glucoamylase from a  
diastatic strain of *Saccharomyces cerevisiae*;  
potential application to direct ethanol or biomass production  
SO Biochem.J.; (1988) 249, 1, 163-70  
CODEN: BIJOAK  
AU Kleinman M J; Wilkinson A E; Wright I P; \*Evans I H; Bevan E A  
AN 1988-03581 BIOTECHDS

L79 ANSWER 112 OF 158 LIFESCI COPYRIGHT 2004 CSA on STN DUPLICATE 36  
TI Biosynthesis of glucoamylase and alpha -amylase by the thermotolerant  
fungus *Aspergillus awamori* .  
SO PRIKL. BIOKHM. MIKROBIOL., (1988) vol. 24, no. 1, pp. 80-86.  
AU Korshunov, V.V.; Loginova, L.G.  
AN 88:110431 LIFESCI

L79 ANSWER 113 OF 158 LIFESCI COPYRIGHT 2004 CSA on STN  
TI Regulation and enhancement of enzyme production.  
SO (1988) . US Cl. 435/162; Int. Cl. C12N 9/34, 9/44, 9/22, C12P 7/14..  
AU Zeikus, J.G.; Hyun, H.-H.  
AN 88:1879 LIFESCI

L79 ANSWER 114 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Immobilization of alpha-galactosidase and glucoamylases on crosslinked  
chitosan beads;  
**thermostable alpha-galactosidase and glucoamylase**

immobilization on chitosan support; use in continuous reactor for  
raffinose and starch saccharification (conference abstract)

SO Chitin+Chitosan; (1988) P41  
AU Ohtakara A; Mukerjee G; Mitsutomi M  
AN 1990-11529 BIOTECHDS

L79 ANSWER 115 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI A preparatory method for **thermostable glucoamylase**;  
by *Aspergillus kawachi* culture  
AN 1987-05129 BIOTECHDS  
PI JP 62006678 13 Jan 1987

L79 ANSWER 116 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI New **thermostable** forms of pullulanase and **glucoamylase**  
; production and characterization;  
from *Clostridium thermohydrosulfuricum*; useful for starch conversion  
to glucose etc. using alpha- and beta-amylases, and to ethanol  
AN 1986-06623 BIOTECHDS  
PI WO 8601831 27 Mar 1986

L79 ANSWER 117 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Thermostable starch converting enzymes from *Clostridium*  
*thermohydrosulfuricum*;  
pullulanase and glucoamylase; for use in starch saccharification  
AN 1987-03422 BIOTECHDS  
PI US 4628031 9 Dec 1986

L79 ANSWER 118 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Co-culture production of **thermostable** beta-amylase,  
**glucoamylase** and pullulanase and ethanol from starch;  
using *Clostridium thermosulfurogenes* and *Clostridium*  
*thermohydrosulfuricum*  
AN 1986-11536 BIOTECHDS  
PI US 4604352 5 Aug 1986

L79 ANSWER 119 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI New **thermostable** amyloglucosidase (**glucoamylase**) from  
**Talaromyces thermophilus**;  
with biphasic decay characteristics; useful for conversion of  
partially hydrolyzed starch to glucose in a continuous process  
AN 1986-08237 BIOTECHDS  
PI US 4587215 6 May 1986

L79 ANSWER 120 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI New strain *Bacillus subtilis*;  
for the production of pullulanase  
AN 1986-12234 BIOTECHDS  
PI JP 61162169 22 Jul 1986

L79 ANSWER 121 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Highly **thermostable glucoamylase** and process for its  
production;  
using *Talaromyces leycettanus*  
AN 1986-08774 BIOTECHDS  
PI US RE32153 20 May 1986

L79 ANSWER 122 OF 158 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
TI Co-production of ethanol and thermostable amylolytic enzymes - by cultivating  
mixture of *clostridium thermosulfurogenes* and *c.thermohydrosulfuricum*.  
PI WO 8601833 A 19860327 (198614)\* EN 18  
RW: BE DE FR GB NL SE  
W: DK FI JP  
US 4604352 A 19860805 (198634)  
EP 195049 A 19860924 (198639) EN

R: BE DE FR GB NL SE  
IN HYUN, H H; ZEIKUS, J G

L79 ANSWER 123 OF 158 FSTA COPYRIGHT 2004 IFIS on STN  
TI Enzymes used for shochu making.  
SO Journal of the Japanese Society of Starch Science [Denpun Kagaku], (1986),  
33 (2) 104-111, 32 ref.  
AU Iwano, K.  
AN 1987(03):H0042 FSTA

L79 ANSWER 124 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI **Thermostable glucoamylase** and method for its  
production;  
isolation from Clostridium thermoamylolyticum; use in glucose syrup  
production  
AN 1985-12368 BIOTECHDS  
PI US 4536477 20 Aug 1985

L79 ANSWER 125 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI New glucoamylase enzyme for production of glucose from starch;  
is obtained from Clostridium thermoamylolyticum  
AN 1985-05688 BIOTECHDS  
PI GB 2145094 20 Mar 1985

L79 ANSWER 126 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI **Thermostable glucoamylase**  
SO Eur. Pat. Appl., 23 pp.  
CODEN: EPXXDW  
IN Katkocin, Dennis M.; Word, Nancy S.; Yang, Shioh Shong  
AN 1985:202606 HCAPLUS  
DN 102:202606

|    | PATENT NO.                            | KIND | DATE     | APPLICATION NO. | DATE     |
|----|---------------------------------------|------|----------|-----------------|----------|
| PI | EP 135138                             | A2   | 19850327 | EP 1984-109640  | 19840813 |
|    | EP 135138                             | A3   | 19860625 |                 |          |
|    | R: AT, BE, CH, DE, FR, IT, LI, NL, SE |      |          |                 |          |
|    | US 4536477                            | A    | 19850820 | US 1983-524070  | 19830817 |
|    | IN 160378                             | A    | 19870711 | IN 1984-MA442   | 19840618 |
|    | ZA 8405184                            | A    | 19850227 | ZA 1984-5184    | 19840705 |
|    | FI 8402916                            | A    | 19850218 | FI 1984-2916    | 19840719 |
|    | JP 60054680                           | A2   | 19850329 | JP 1984-164348  | 19840807 |
|    | AU 8431708                            | A1   | 19850221 | AU 1984-31708   | 19840808 |
|    | AU 575844                             | B2   | 19880811 |                 |          |
|    | CA 1221326                            | A1   | 19870505 | CA 1984-461085  | 19840815 |
|    | DK 8403932                            | A    | 19850218 | DK 1984-3932    | 19840816 |
|    | GB 2145094                            | A1   | 19850320 | GB 1984-20820   | 19840816 |
|    | GB 2145094                            | B2   | 19870708 |                 |          |
|    | ES 535210                             | A1   | 19850616 | ES 1984-535210  | 19840816 |
|    | ES 538272                             | A1   | 19850901 | ES 1984-538272  | 19841205 |

L79 ANSWER 127 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN DUPLICATE  
39  
TI GENERAL BIOCHEMICAL-CHARACTERIZATION OF **THERMOSTABLE** PULLULANASE  
AND **GLUCOAMYLASE** FROM CLOSTRIDIUM-THERMOHYDROSULFURICUM  
SO APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (1985) Vol. 49, No. 5, pp.  
1168-1173.  
AU HYUN H H; ZEIKUS J G (Reprint)  
AN 85:269764 SCISEARCH

L79 ANSWER 128 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Differential amylosaccharide metabolism of Clostridium thermosulfurogenes  
and Clostridium thermohydrosulfuricum;  
enzyme activity analysis; potential application of thermostable  
amylase and ethanol production



SO J.Bacteriol.; (1985) 164, 3, 1153-61  
CODEN: JOBAAY

AU Hyun H H; Shen G-J; \*Zeikus J G  
AN 1986-01977 BIOTECHDS

L79 ANSWER 129 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Purification and characterization of glucoamylase from a higher yielding mutant of *Aspergillus candidus* Link var. *aureus*  
SO Applied Microbiology and Biotechnology (1985), 22(3), 181-6  
CODEN: AMBIDG; ISSN: 0175-7598  
AU Kolhekar, Suhas R.; Mahajan, Pramod B.; Ambedkar, Sudha S.; Borkar, Prabhakar S.  
AN 1985:500769 HCAPLUS  
DN 103:100769

L79 ANSWER 130 OF 158 LIFESCI COPYRIGHT 2004 CSA on STN  
TI **Thermostable glucoamylase** and method for its production.  
SO (1985) . US Cl. 435/205; Int. Cl. C12N 9/34, C12P 19/20, C12R 1/145..  
AU Katkocin, D.M.; Word, N.S.; Yang, S.-S.  
AN 85:16943 LIFESCI

L79 ANSWER 131 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Complex biotechnological plant with a processing capacity of 400 tons daily of native corn;  
at Szabadegyhaza, Hungary for sugar and alcohol production; amylolytic enzyme application (conference paper)  
SO Eur.Congr.Biotechnol; (1984) 3 Meet., Vol.3, 469-78  
AU Hollo J; Laszlo E; Hoschke A; Bende P; Bolgar P; Wieg A  
AN 1986-07041 BIOTECHDS

L79 ANSWER 132 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
TI Adsorption of glucoamylase on DEAE-cellulose;  
immobilization and use in starch saccharification  
SO Starch; (1983) 35, 12, 427-30  
CODEN: STARDD  
AU Jach M; Sugier H  
AN 1984-02880 BIOTECHDS

L79 ANSWER 133 OF 158 MEDLINE on STN DUPLICATE 40  
TI Studies on the intestinal disaccharidases of the pigeon. III. Separation, purification and properties of sucrase-isomaltase and maltase-glucoamylase.  
SO Archives internationales de physiologie et de biochimie, (1983 Dec) 91 (5) 379-90.  
Journal code: 0405355. ISSN: 0003-9799.  
AU Prakash K; Patil S D; Hegde S N  
AN 84255899 MEDLINE

L79 ANSWER 134 OF 158 FSTA COPYRIGHT 2004 IFIS on STN  
TI Highly **thermostable glucoamylase** and process for its production.  
SO United States Patent, (1981)  
IN Tamura, M.; Shimizu, M.; Tago, M.  
AN 1981(11):G0801 FSTA  
PI US 4247637

L79 ANSWER 135 OF 158 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
TI EXOGENOUS GLUCO AMYLASES OF MOLDS OF THE ASPERGILLUS GENUS.  
SO Prikladnaya Biokhimiya i Mikrobiologiya, (1981) Vol. 17, No. 4, pp. 569-574.  
CODEN: PBMIAK. ISSN: 0555-1099.  
AU KVESITADZE G I [Reprint author]; VORONTSOVA N N; GONCHAROVA O N; KORIDZE V V; DVADTSATOVA E A; KVACHADZE L L

AN 1982:247872 BIOSIS

L79 ANSWER 136 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI A study of the amylolytic system of Schwanniomyces castelii  
SO Zeitschrift fuer Allgemeine Mikrobiologie (1981), 21(7), 537-44  
CODEN: ZAPOAK; ISSN: 0044-2208  
AU Oteng-Gyang, K.; Moulin, G.; Galzy, P.  
AN 1982:65370 HCAPLUS  
DN 96:65370

L79 ANSWER 137 OF 158 MEDLINE on STN DUPLICATE 41  
TI Purification and characterization of a **thermostable glucoamylase** from the thermophilic fungus Thermomyces lanuginosus.  
SO Biochemical journal, (1981 Feb 1) 193 (2) 379-87.  
Journal code: 2984726R. ISSN: 0264-6021.  
AU Basaveswara Rao V; Sastri N V; Subba Rao P V  
AN 82067973 MEDLINE

L79 ANSWER 138 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 42  
TI Purification and characterization of a **thermostable glucoamylase** from the thermophilic fungus Thermomyces lanuginosus  
SO Biochemical Journal (1981), 193(2), 379-87  
CODEN: BIJOAK; ISSN: 0306-3275  
AU Baseveswara Rao, V.; Sastri, N. V. S.; Subba Rao, P. V.  
AN 1981:204318 HCAPLUS  
DN 94:204318

L79 ANSWER 139 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN  
TI PURIFICATION AND CHARACTERIZATION OF A **THERMOSTABLE GLUCOAMYLASE** FROM THE THERMOPHILIC FUNGUS THERMOMYCES-LANUGINOSUS  
SO BIOCHEMICAL JOURNAL, (1981) Vol. 193, No. 2, pp. 379-387.  
AU RAO V B (Reprint); SASTRI N V S; RAO P V S  
AN 81:75111 SCISEARCH

L79 ANSWER 140 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 43  
TI A novel highly **thermostable glucoamylase** and process for its production  
SO Brit. UK Pat. Appl., 10 pp.  
CODEN: BAXXDU  
IN Tamura, Masaki; Shimizu, Mizuho; Tago, Minoru  
AN 1980:602706 HCAPLUS  
DN 93:202706

|    | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|----|-------------|------|----------|-----------------|----------|
| PI | GB 2029835  | A    | 19800326 | GB 1979-30311   | 19790831 |
|    | GB 2029835  | B2   | 19821110 |                 |          |
|    | JP 55034046 | A2   | 19800310 | JP 1978-106354  | 19780901 |
|    | JP 61055948 | B4   | 19861129 |                 |          |
|    | US 4247637  | A    | 19810127 | US 1979-55723   | 19790709 |
|    | AU 7949490  | A1   | 19800306 | AU 1979-49490   | 19790802 |
|    | AU 528159   | B2   | 19830414 |                 |          |
|    | IN 154830   | A    | 19841215 | IN 1982-CA1413  | 19821206 |
|    | US 32153    | E    | 19860520 | US 1985-761930  | 19850802 |

L79 ANSWER 141 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Thermal stability of immobilized glucoamylase in the presence of a substrate  
SO Agricultural and Biological Chemistry (1980), 44(11), 2737-9  
CODEN: ABCHA6; ISSN: 0002-1369  
AU Moriyama, Shigeru; Kataoka, Satoru; Nakanishi, Kazuhiro; Matsuno, Ryuichi; Kamikubo, Tadashi  
AN 1981:43296 HCAPLUS  
DN 94:43296

L79 ANSWER 142 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
 TI Thermal stability of immobilized glucoamylase entrapped in polyacrylamide  
 gels and bound to SP-Sephadex C-50  
 SO Agricultural and Biological Chemistry (1980), 44(9), 2047-54  
 CODEN: ABCHA6; ISSN: 0002-1369  
 AU Moriyama, Shigeru; Noda, Atsufumi; Nakanishi, Kazuhiro; Matsuno, Ryuichi;  
 Kamikubo, Tadashi  
 AN 1980:600138 HCAPLUS  
 DN 93:200138

L79 ANSWER 143 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN  
 TI INFLUENCE OF GRADUAL CHEMICAL MODIFICATION ON ACTIVITY AND  
**THERMOSTABILITY** OF SOLUBLE AND IMMOBILIZED **GLUCOAMYLASE**  
 SO BIOCHEMISTRY-USSR, (1980) Vol. 45, No. 6, pp. 826-830.  
 AU GERASIMAS V B (Reprint); CHERNOGLAZOV V M; KLESOV A A  
 AN 81:22214 SCISEARCH

L79 ANSWER 144 OF 158 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
 TI AMPHIBIAN INTESTINAL BRUSH BORDER MEMBRANES 2. ISOLATION FROM  
 RANA-CATESBEIANA ADULT.  
 SO Comparative Biochemistry and Physiology B, (1980) Vol. 66, No. 1, pp.  
 111-116.  
 CODEN: CBPBB8. ISSN: 0305-0491.  
 AU DAUCA M [Reprint author]; HOUDRY J; HUGON J S; MENARD D  
 AN 1980:243374 BIOSIS

L79 ANSWER 145 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 44  
 TI Enzymic preparation of **glucoamylase** with a high  
**thermostability**  
 SO Belg., 21 pp.  
 CODEN: BEXXAL  
 AN 1980:196396 HCAPLUS  
 DN 92:196396

|    | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|----|-------------|------|----------|-----------------|----------|
| PI | BE 878466   | A1   | 19791217 | BE 1979-58030   | 19790828 |
|    | JP 55034046 | A2   | 19800310 | JP 1978-106354  | 19780901 |
|    | JP 61055948 | B4   | 19861129 |                 |          |
|    | CA 1128885  | A1   | 19820803 | CA 1979-332546  | 19790725 |
|    | NL 7906265  | A    | 19800304 | NL 1979-6265    | 19790817 |
|    | ES 483741   | A1   | 19800416 | ES 1979-483741  | 19790830 |
|    | ES 483735   | A1   | 19800816 | ES 1979-483735  | 19790830 |
|    | DK 7903651  | A    | 19800302 | DK 1979-3651    | 19790831 |
|    | DK 146631   | B    | 19831121 |                 |          |
|    | DK 146631   | C    | 19840507 |                 |          |
|    | DE 2935315  | A1   | 19800313 | DE 1979-2935315 | 19790831 |
|    | FR 2434867  | A1   | 19800328 | FR 1979-21906   | 19790831 |
|    | FR 2434867  | B1   | 19860425 |                 |          |
|    | IN 151247   | A    | 19830312 | IN 1979-CA913   | 19790901 |
|    | IN 154830   | A    | 19841215 | IN 1982-CA1413  | 19821206 |

L79 ANSWER 146 OF 158 MEDLINE on STN DUPLICATE 45  
 TI [Substrate **thermostabilization** of soluble and immobilized  
**glucoamylase**].  
 Termostabilizatsiia rastvorimoi i immobilizovannoi gliukoamilazy pod  
 deistviem sybstrata.  
 SO Biokhimiia (Moscow, Russia), (1979 Jun) 44 (6) 1084-92.  
 Journal code: 0372667. ISSN: 0320-9725.  
 AU Klesov A A; Gerasimas V B  
 AN 79232767 MEDLINE

L79 ANSWER 147 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN  
 TI SUBSTRATE **THERMOSTABILIZATION** OF SOLUBLE AND IMMOBILIZED  
**GLUCOAMYLASE**

SO BIOCHEMISTRY-USSR, (1979) Vol. 44, No. 6, pp. 854-861.  
AU KLESOV A A (Reprint); GERASIMAS V B  
AN 80:22196 SCISEARCH

L79 ANSWER 148 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Immobilization of glucoamylase and acid proteinase on modified silochrome  
using N-carbethoxy-2-ethoxy-1,2-dihydroquinoline  
SO Prikladnaya Biokhimiya i Mikrobiologiya (1979), 15(5), 744-6  
CODEN: PBMIK; ISSN: 0555-1099  
AU Borisova, V. N.; Lomako, O. V.; Motina, L. I.; Nakhapetyan, L. A.  
AN 1980:17981 HCAPLUS  
DN 92:17981

L79 ANSWER 149 OF 158 MEDLINE on STN DUPLICATE 46  
TI The **thermostability** of **glucoamylase** immobilized in  
different ways has a certain limit.  
SO Biochimica et biophysica acta, (1979 Nov 9) 571 (1) 162-5.  
Journal code: 0217513. ISSN: 0006-3002.  
AU Klyosov A A; Gerasimas V B  
AN 80043127 MEDLINE

L79 ANSWER 150 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN DUPLICATE  
47  
TI **THERMOSTABLE GLUCOAMYLASE** FROM THE THERMOPHILIC FUNGUS  
THERMOMYCES-LANUGINOSUS  
SO CURRENT SCIENCE, (1979) Vol. 48, No. 3, pp. 113-115.  
AU RAO V B (Reprint); MAHESHWARI R; SASTRY N V S; RAO P V S  
AN 79:58246 SCISEARCH

L79 ANSWER 151 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN  
TI PURIFICATION AND PROPERTIES OF A **THERMOSTABLE**  
**GLUCOAMYLASE** FROM THE THERMOPHILIC FUNGUS THERMOMYCES-LANUGINOSUS  
SO INDIAN JOURNAL OF BIOCHEMISTRY & BIOPHYSICS, (1979) Vol. 16, No. 1, pp.  
75.  
AU RAO V B (Reprint); SASTRI N V S; RAO P V S  
AN 79:308874 SCISEARCH

L79 ANSWER 152 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Some properties of a glucoamylase produced by the thermophilic fungus  
Humicola lanuginosa  
SO Carbohydrate Research (1978), 61(1), 301-8  
CODEN: CRBRAT; ISSN: 0008-6215  
AU Taylor, Pamela M.; Napier, Eunice J.; Fleming, I. D.  
AN 1978:185087 HCAPLUS  
DN 88:185087

L79 ANSWER 153 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Relation of the stability of immobilized glucoamylase to the method of  
immobilization  
SO Prikladnaya Biokhimiya i Mikrobiologiya (1978), 14(2), 236-42  
CODEN: PBMIK; ISSN: 0555-1099  
AU Sinitsyn, A. P.; Klibanov, A. M.; Klesov, A. A.; Martinek, K.  
AN 1978:185344 HCAPLUS  
DN 88:185344

L79 ANSWER 154 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN  
TI Immobilization of glucoamylase  
SO Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
IN Oosawa, Takehiko  
AN 1977:418207 HCAPLUS  
DN 87:18207

| PATENT NO. | KIND | DATE  | APPLICATION NO. | DATE  |
|------------|------|-------|-----------------|-------|
| -----      | ---  | ----- | -----           | ----- |

PI JP 52034979 A2 19770317 JP 1975-109150 19750909

L79 ANSWER 155 OF 158 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS  
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TI Influence of dielectric constants and ligand binding on  
**thermostability of glucoamylase.**

SO Agricultural and Biological Chemistry, (1977) 41/10 (1985-1993).  
CODEN: ABCHA6

AU Moriyama S.; Matsuno R.; Kamikubo T.

AN 78229580 EMBASE

L79 ANSWER 156 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN

TI INFLUENCE OF DIELECTRIC-CONSTANTS AND LIGAND-BINDING ON

**THERMOSTABILITY OF GLUCOAMYLASE**

SO AGRICULTURAL AND BIOLOGICAL CHEMISTRY, (1977) Vol. 41, No. 10, pp.  
1985-1993.

AU MORIYAMA S (Reprint); MATSUNO R; KAMIKUBO T

AN 77:457594 SCISEARCH

L79 ANSWER 157 OF 158 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
DUPLICATE 49

TI IMMOBILIZATION OF ASPERGILLUS GLUCO AMYLASE ON INORGANIC CARRIERS.

SO Bioorganicheskaya Khimiya, (1977) Vol. 3, No. 6, pp. 836-841.  
CODEN: BIKHD7. ISSN: 0132-3423.

AU KVESITADZE G I [Reprint author]; GVALIA T SH; SVANIDZE R S; TOKHADZE Z V;  
PUTSUBIDZE N N

AN 1978:139570 BIOSIS

L79 ANSWER 158 OF 158 HCAPLUS COPYRIGHT 2004 ACS on STN

TI Intraparticle diffusion in the reaction catalyzed by immobilized  
glucoamylase

SO Hakko Kogaku Zasshi (1973), 51(8), 566-74  
CODEN: HKZAA2; ISSN: 0367-5963

AU Miyamoto, Kazuhisa; Fujii, Tomoko; Tamaoki, Nobuko; Okazaki, Mitsuo;  
Miura, Yoshiharu

AN 1974:24314 HCAPLUS

DN 80:24314

=> save temp l79 glucoamy/a

ANSWER SET L79 HAS BEEN SAVED AS 'GLUCOAMY/A'

=> log h

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

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FULL ESTIMATED COST

316.86

317.07

SESSION WILL BE HELD FOR 60 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 15:12:44 ON 14 MAY 2004

\* \* \* \* \* RECONNECTED TO STN INTERNATIONAL \* \* \* \* \*

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HCAPLUS, NTIS, ESBIODBASE, BIOTECHNO, WPIDS, FSTA' AT 15:25:00 ON 14 MAY 2004

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| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|----------------------|------------------|---------------|
| FULL ESTIMATED COST  | 316.86           | 317.07        |

=> d ab 52,76,92,119,121

L79 ANSWER 52 OF 158 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN DUPLICATE 22

AB The heat-resistant mold, *Talaromyces flavus*, was found to produce a thermophilic glucoamylase that exhibited the highest activity at 50-degrees-C and in the pH range of 4.0-4.8. The K(m) and V(max) values of the crude enzyme for amylopectin were 0.21% and 16.7 mg glucose l-1 min-1, respectively. The molecular weight of the enzyme as estimated by the gel filtration method was 42 kDa.

L79 ANSWER 76 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 AB Thermophilic, thermotolerant and mesophilic fungus strains were screened for production of starch saccharification enzymes with improved **thermostability** compared with industrial **glucoamylase** (EC-3.2.1.3). Soil samples were grown at 28 or 45 deg, and saccharifying and transglucosidase activity was measured at 60 and 75 deg. Among 846 strains isolated, 700 strains with significant activity were selected, comprising *Aspergillus*, *Endomycopsis*, *Mucor*, *Penicillium*, *Rhizopus* and other species. 5 Strains (2 *Thermoascus* spp. (*Thermoascus crustaceus* P6 and *Thermoascus aurantiacus* Fu 1-1), 1 strain from the *Aspergillus fumigatus* group (*Aspergillus carbonarius* Co 27) and 2 strains from the *Aspergillus niger* group (*A. niger* var. *amamori* 25-17 and *Aspergillus viridi-nutans* F 3-2)) secreted a saccharification complex of thermostable enzymes. Those from *Thermoascus* sp. were most active, and *T. crustaceus* was selected for possible industrial application. (17 ref)

L79 ANSWER 92 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
 AB The biochemical and biotechnological features of microbial glucoamylases (EC-3.2.1.3) are reviewed. The occurrence and multiplicity of glucoamylase is discussed. Measurement of glucoamylase activity is considered; the enzyme is generally assayed by measuring release of glucose from soluble starch. Glucoamylase has been purified by procedures involving column fractionation including ion exchange, and hydrophobic and gel filtration chromatographic steps. Glucoamylase can be purified from contaminating enzymes by adsorption of the impurities on naturally occurring acid clays, such as bentonite. The molecular characteristics of glucoamylase are discussed, and its action on soluble and insoluble substrates is considered. Synergistical action of the enzyme with other enzymes can occur during starch hydrolysis. The development of a **thermostable glucoamylase** may be an important contribution to the starch processing industry. The cloning and expression in yeast of glucoamylase is discussed, and industrial uses are cited. Methods for immobilization of the enzyme are considered, and applications of the immobilized enzyme are discussed. (186 ref)

L79 ANSWER 119 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
AB A new **thermostable** amyloglucosidase (**glucoamylase**)  
(EC-3.2.1.3) is produced by culture of *Talaromyces thermophilus* in a culture medium. The enzyme shows biphasic decay at 70 deg and pH 5 in the absence of substrate. It shows maximum activity at pH 5.1, and is especially obtained from strains NRRL 15774, 15775, 15776 and 15777; the later being the most preferable source. (I) Is used to convert partially hydrolyzed starch to glucose, especially in a continuous process using free or immobilized (I). The enzyme has better stability than known enzymes. Saccharification using (I) is performed at 55-100 (60-90) deg at pH 4.0-6.5. *T. thermophilus* is cultured in a medium containing soluble starch, corn steep liquor, cottonseed meal, yeast extract and salts at 40 deg with shaking for 2 wk. The culture filtrate was used as the enzyme source. The enzyme activity obtained was higher than that obtained from culture of *Talaromyces duponti* G45-632. (5pp)

L79 ANSWER 121 OF 158 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN  
AB A novel glucoamylase (EC-3.2.1.3) is produced by culturing cells of *Talaromyces leycettanus* strain G45-632, Fermentation Research Institute Deposit Number 4566. This strain grows at 25-50 deg and pH 3-9, and shows optimal growth at 40 deg and pH 6-7. For glucoamylase production, the strain is grown in a culture medium containing C- and N-sources, inorganic salts, etc., at 30-45 deg, pH 5-8 for 3-10 days. The enzyme is recovered by conventional techniques. It has a mol.weight of 31,000, and shows maximum activity at 75 deg (10 min reaction on 2% maltodextrin at pH 4.5) retaining 90% or more of its initial activity at 70 deg for 10 min at pH 4.5. The glucoamylase can be used for starch saccharification to dextrose. It may be immobilized and used for continuous saccharification of starch at 60-65 deg with high yield. (8pp)

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

339.43

339.64

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